

- 4) claim 7 was rejected under 35 U.S.C. 103(a) as being unpatentable over Mauro in view of Kimura and Yokoyama, further in view of U.S. Pat. No. 4,136,076 (hereinafter "Daniels");
- 5) claim 8 was rejected under 35 U.S.C. 103(a) as being unpatentable over Mauro in view of Kimura, further in view of U.S. Pat. No. 6,283,589 (hereinafter "Gelbart");
- 6) claims 9-13 were rejected under 35 U.S.C. 103(a) as being unpatentable over Mauro in view of U.S. Pat. No. 6,106,113 (hereinafter "Yamazaki");
- 7) claim 14 was rejected under 35 U.S.C. 103(a) as being unpatentable over Mauro in view of Yamazaki, further in view of Yokoyama; and
- 8) claim 15 was rejected under 35 U.S.C. 103(a) as being unpatentable over Mauro in view of Yamazaki, further in view of Daniels.

Applicant acknowledges that a telephonic election was made on January 15, 2002, and affirms the election. Claims 16-20 will be cancelled without prejudice upon allowance of the pending claims.

Rejections under 35 U.S.C. 103(a)

The Examiner has rejected all of the claims under 35 U.S.C. 103(a). In every rejection made by the Examiner, Mauro is cited as the primary reference. All of these rejections are respectfully believed to be based on an erroneous interpretation of the prior art when taken as a whole and applied to the presently claimed invention.

The real issue under § 103 is whether the Examiner has stated a case of *prima facie* obviousness. The test for establishing such a case is well stated in *In re Lintner*, 173 USPQ 560, 562 (CCPA 1972) as follows:

"In determining the propriety of the Patent Office  
case for obviousness in the first instance, it is  
necessary to ascertain whether or not the reference

teaching would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination or other modification.

It has been widely recognized that virtually every invention is a combination of elements and that most, if not all, of these will be found somewhere in an examination of the prior art. This reasoning lead the CAFC, in *Connell v. Sears, Roebuck & Co.*, 220 USPQ 193, 199 (CAFC 1983) to state:

"....it is common to find elements or features somewhere in the prior art. Moreover, most if not all elements perform their ordained and expected function. The test is whether the claimed invention as a whole, in light of all the teachings of the references in their entireties, would have been obvious to one of ordinary skill in the art at the time the invention was made." (underlining added)

When making a rejection under 35 U.S.C. 103, the prior art relied upon must contain some motivation for one skilled in the art to modify or combine references. It is not enough to look at the elements of the invention, i.e., the claims, and find all of those elements somewhere in the prior art. Further, the proposed modification of prior art must have had a reasonable expectation of success from the perspective of one skilled in the art at the time the invention was made. In other words, the reasonable expectation of success test must be made without hindsight analysis. After considering these points of law, it is the Applicants' assertion that the Examiner has not met this burden with respect to maintaining an obviousness rejection. An explanation of each of these points will follow.

There are currently two independent claims pending before the Examiner, i.e., claim 1 and claim 9. Both rely heavily on Mauro, which is drawn to a ceramic coloring process. Secondary patent references are also cited by the Examiner. All of the secondary references provide teachings related to the

ink-jet arts. The only reference that deals primarily with the ceramic coloring arts it Mauro. Therefore, Mauro will be discussed in detail.

Mauro teaches of a liquid mixture that includes metal salts having chromophore action, resins, solvents, and wetting agents. However, as the Examiner admits in the Office Action, Mauro fails to teach the use of an ink-jet printer. Even further, nowhere does Mauro teach, or even suggest, that any of its compositions can be jetted, such as from an ink-jet pen.

As the Examiner is aware, the prior art relied upon must contain some motivation for one skilled in the art to modify or combine references. In rejecting claim 1, the Examiner has failed to point to anything in Mauro that would even suggest that a jetting process can be used to apply chromophores to an article for firing. To the contrary, the specification discusses the "thickening" of the compositions to be applied in many places (see para. 0004, 0041, and 0042). Mauro also teaches application of colorant by silk-screening, direct printing, rotogravure (see para. 0019 and Abstract). In one embodiment, the glazed surface can be decorated with one or more silk-screen applications, using known-type inks composed of colorant powders and a traditional medium. Compositions that are applied by silk-screening, standard printing (such as offset printing), or rotogravure are not compositions that would be jettable as taught in the present application. Further, considering the viscosity and/or consistency of the compositions described by Mauro, the disclosure as a whole does not suggest that its compositions can be jetted from, for example, an ink-jet-type pen. Even if the compositions can be made to be less viscous and spray applied, standard spray applicators are much more forgiving with respect to reliability than a pen designed to digitally jet an image. Standard spray applicators are also typically more random in their application, and do not provide for digital imagery application. Alternatively, the Examiner has failed to point to anything in the secondary reference, i.e., Kimura, that teaches any application that would be useful for digitally printing on articles (such as glazed ceramics) to be fired.

Another requirement necessary to sustain an obviousness rejection is that a proposed modification of the prior art, i.e., jetting step provided by Kimura, must also have had a reasonable expectation of success from the perspective

of one skilled in the art at the time the invention was made. There is no expectation, particularly after considering Mauro, that a composition like that in Mauro would be jettable. In fact, Mauro refers to the colorant material as being "thickened with chromophores." It is not evident how one could look to Mauro and hope to be able to obtain a jettable composition, particularly when ink-jet applications are known to have difficulty with materials having a thick consistency.

The only way these references could have been combined is through impermissible hindsight analysis. It appears that the Examiner has reviewed the claims and found what is thought to be every element of the claimed invention in multiple pieces of prior art and then attempted to weave them together to arrive at the present invention. This piecemeal type of analysis is clearly not proper, as the only way to bring these elements together is by first reading the Applicants' own disclosure. This is not appropriate and cannot provide the basis for making a rejection. Part of the invention is that the Applicants have combined elements from two areas, i.e., ink-jet arts and ceramic arts, that have previously been thought to be incompatible.

As it is only by first considering the Applicants' invention that the combination of references can be suggested, claims 1 to 5 are believed to be allowable. The Examiner is respectfully requested to reconsider the rejections, and allow claims 1-5 accordingly. Further, inasmuch as claims 6-8 depend from claim 1, these claims are also thought to be allowable. This is particularly true since Yokoyama, Daniels, and Gelbart (the secondary references) do not add anything to the analysis of claim 1, i.e., all drawn to more conventional ink-jet ink inventions unrelated to ceramics and other substrates configured for firing.

Referring now to claims 9-15, these claims are also thought to be allowable as well. Similar to claim 1, a step of jetting chromophore-containing fluid is present. The Examiner has not cited a reference that teaches this step, nor would it be proper to cite Kimura (or any other typical ink-jet ink reference) as per the discussion above.

To summarize the invention set forth in claim 9, the chromophores of the chromophore-containing fluid become adhered to the article upon firing. Further, the added requirement that the chromophore-containing fluid is jetted to

a transfer medium, provides a further element that is distinguishable. The fact that the Examiner has stated that Yamazaki teaches a transfer medium is irrelevant. The Applicants do not claim that they are the inventors of the transfer medium *per se*. For example, transfer mediums are used to make iron-on T-shirts. However, nowhere does the prior art teach the jetting of chromophores to a transfer medium, to be further adhered to an article for firing. In order to maintain a rejection of even the element containing the transfer medium, the Examiner would have to point to a suggestion in Maura that would teach one skilled in the art to look to Yamazaki. This, coupled with the fact that the jetting step is in no way suggested by Maura, provides a basis for allowing claims 9-15. Reconsideration is respectfully requested.

In view of the foregoing, Applicants believe that claims 1-15 present allowable subject matter and allowance of all pending claims is respectfully requested. If any impediment to the allowance of these claims remains after consideration of the above remarks, and such impediment could be alleviated during a telephone interview, the Examiner is invited to telephone the undersigned attorney at (541) 715-0159, so that such issues may be resolved as expeditiously as possible.

Please charge any additional fees or credit any overpayment to Deposit Account No. 08-2025.

Dated this 14<sup>th</sup> day of May, 2002.

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Respectfully submitted,

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